What The Data Say About the Nursing Workforce in North Carolina

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NCIOM Taskforce on the Future of the Nursing Workforce
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UNC | THE CECIL G. SHEPS CENTER FOR HEALTH SERVICES RESEARCH

Who are we?

Mission: to provide timely, objective data and analysis to inform health workforce policy in North Carolina and the United States

- Based at Cecil G. Sheps Center for Health Services Research at UNC-CH, but mission is statewide

- Independent of government and health care professionals

- We do not represent a particular profession, specialty or educational institution

- Primarily grant-funded. **The NC Board of Nursing provided the funding and data for NC Nursecast**

This presentation in one slide

- NC was projected to face a nurse shortage *even before the pandemic;* shortages will become more acute if significant numbers of nurses exit the workforce

- LPNs are forecast to face even greater shortages than RNs

- Model projects shortage of nurse educators. Educator workforce is older and at higher risk of exiting workforce

- NC's nursing programs have different "footprints" in terms of retention in NC, their local community, and rural areas

- We're not going to educate our way out of this shortage. We need to focus on retention

- Workplace violence rates are on the rise and may affect future nursing supply

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What is NC Nursecast?

NC Nursecast Supply & Demand Model is an interactive, web-based model that forecasts the future supply and demand for Registered Nurses (RNs) and Licensed Practical Nurses (LPNs) out to 2033

NC Nursecast Graduate Diffusion Tool is an interactive data visualization that shows "footprint" of NC's nursing programs: % of graduates who remain in state, practice in rural areas, and are employed in various settings

https://ncnursecast.unc.edu/

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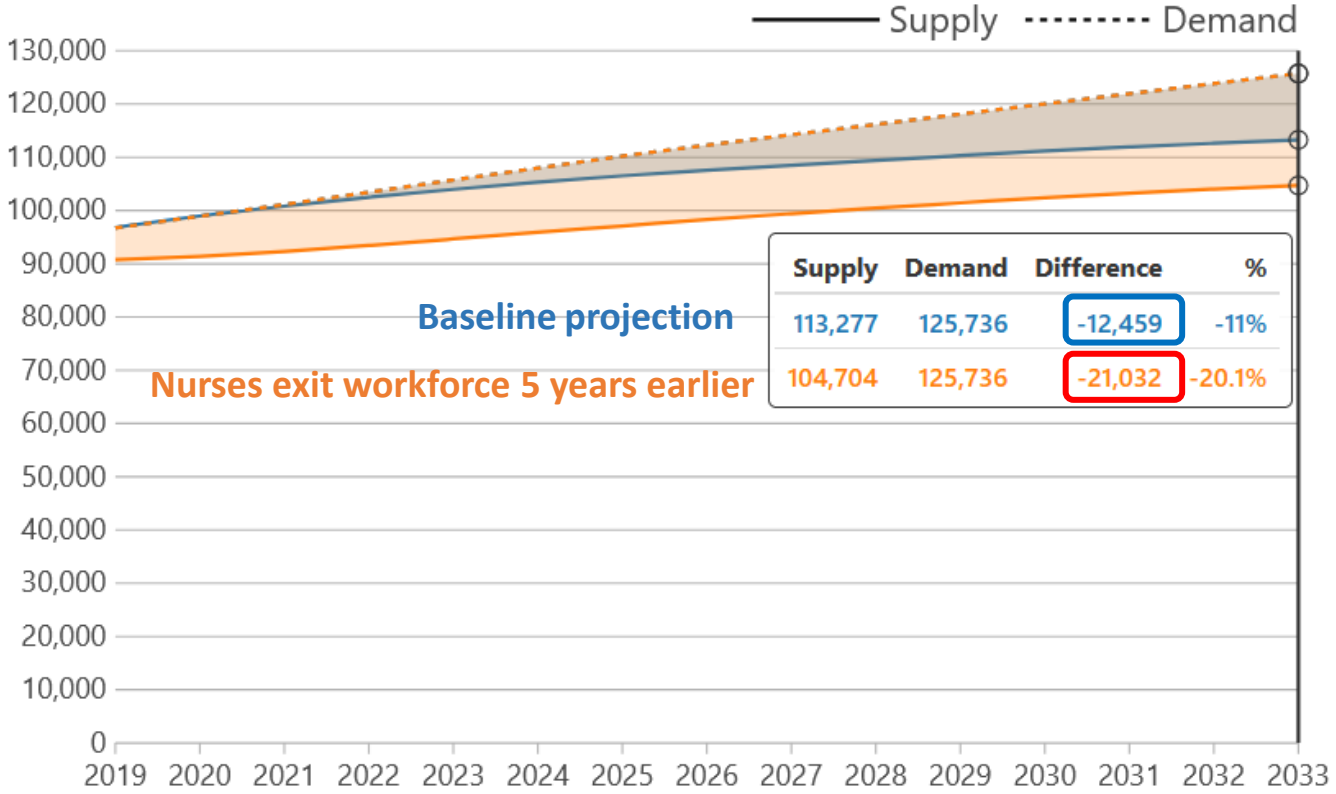# Forecasting the future is difficult ...especially during a pandemic

- NC Nursecast was developed based on historical data, before COVID-19 emerged

- The pandemic is affecting nurse supply and demand, but effects are not yet well understood
  - Nurses may exit the workforce earlier than expected (due to burnout, workplace violence, family/work conflict)
  - The pandemic may trigger a "nurse hero" effect which could increase supply of nursing students
  - NC could face increased competition from other states for nurses

  Did you know that more than 50% of RNs who enter NC's workforce each year are from outside NC?

Even before the pandemic hit, NC was forecast to face a nursing shortage of 12,500 RNs by 2033

Registered Nurse Supply-Demand under "Baseline" (Pre-Covid) and Early Exit Scenario

	Supply	Demand	Difference	%
Baseline projection	113,277	125,736	-12,459	-11%
Nurses exit workforce 5 years earlier	104,704	125,736	-21,032	-20.1%

If burnout or other factors cause nurses to exit the workforce five years earlier, the shortage nearly doubles

Hospitals and nursing homes, extended care, assisted living facilities face largest RN shortages
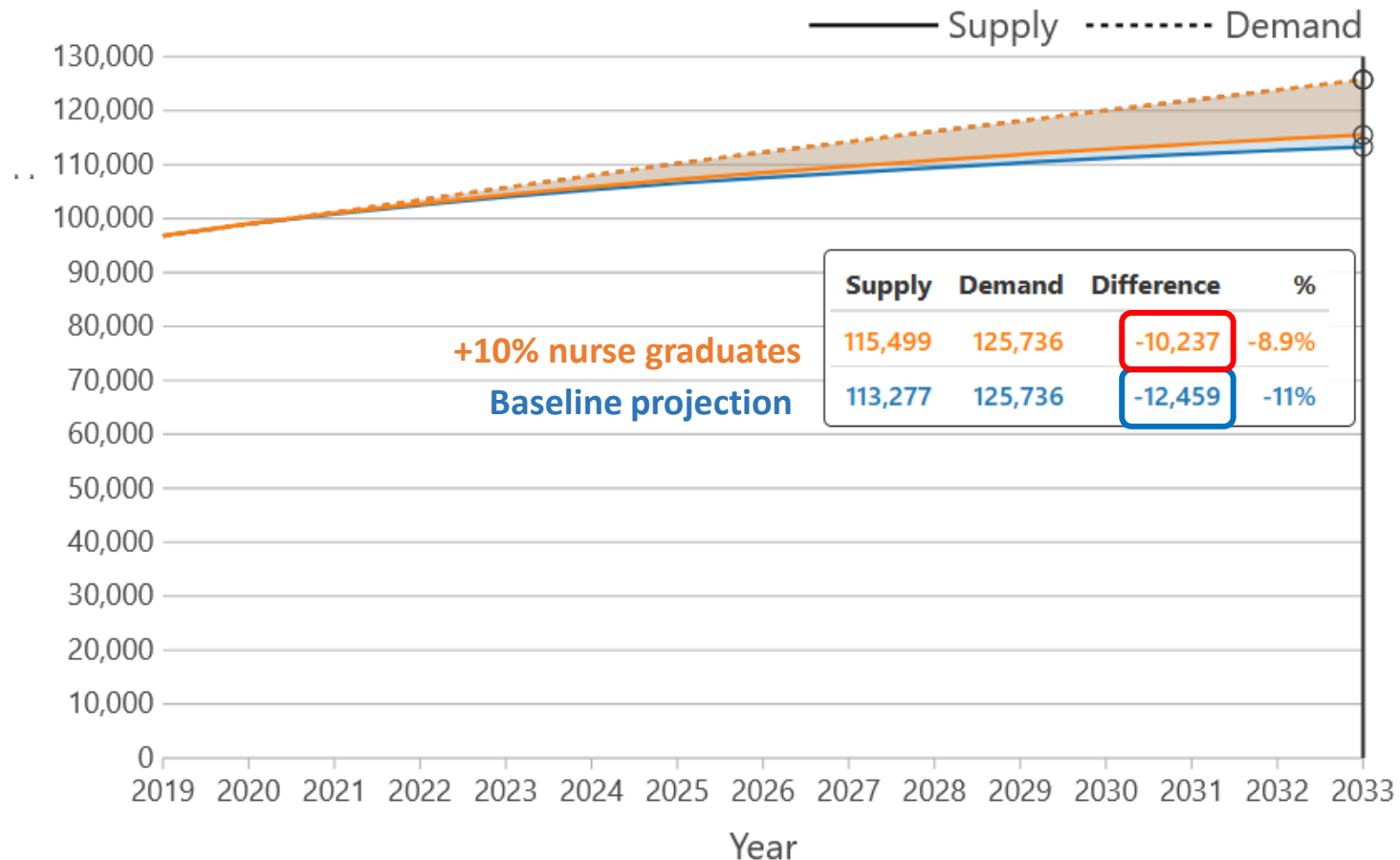
Registered Nurse Workforce Shortage and Surplus Estimates for 2033

Setting	# in Shortage or Surplus in 2033	% Shortage or Surplus in 2033
Total	-12,500	-11%
Hospital	-9,927	-16.7%
Nursing Home/Extended Care/Assisted Living	-1,888	-30.8%
Home Health/Hospice	-1,535	-17.9%
Nursing Education	-132	-8.9%
Correctional Facility	-128	-15.7%
Mental Health Hospital/Facility	-26	-0.9%
Community and Population Health	86	1.4%
Ambulatory Care	363	2.3%

Note: Data from NC Nursecast, which includes NC Board of Nursing/Health Professions Data System, population data from NC Office of Budget and Analysis and Expert Input

We're not going to educate our way out of this shortage. We need to focus on retention
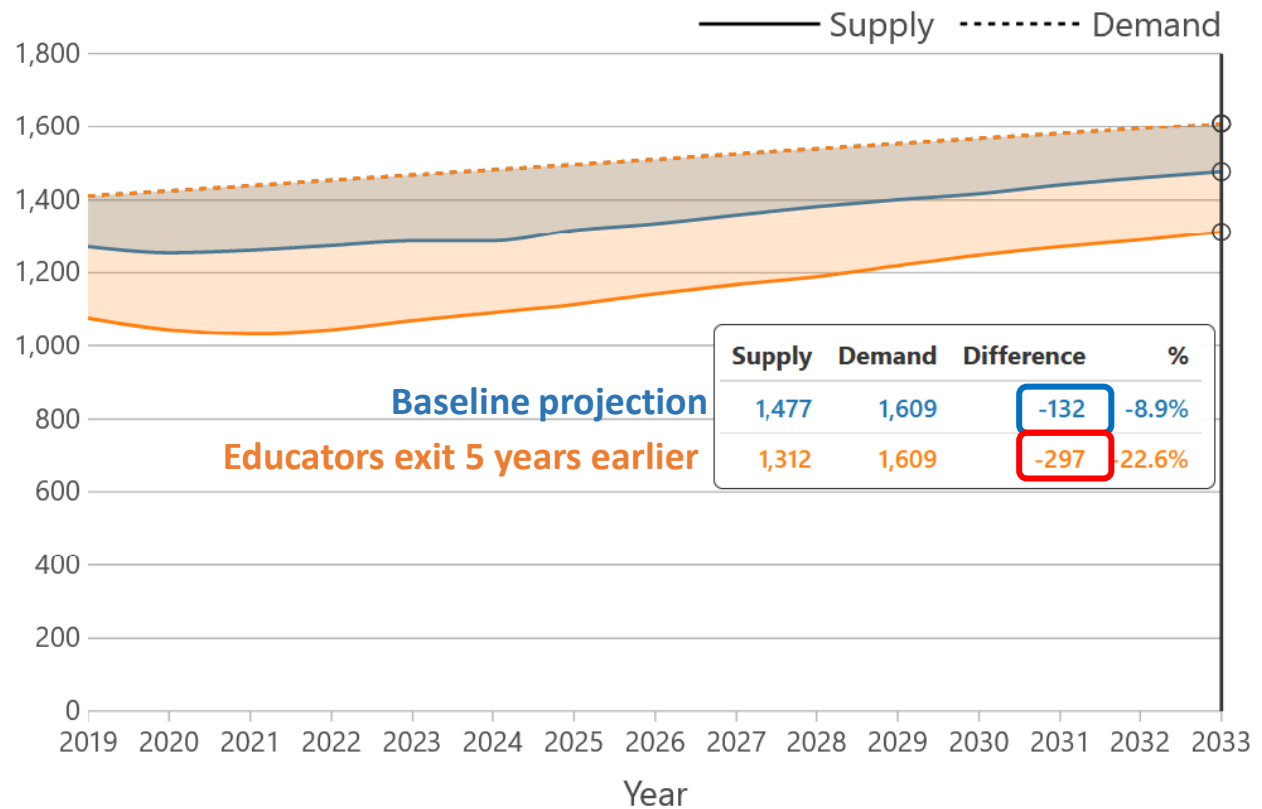
Registered Nurse Supply-Demand under "Baseline" (Pre-Covid) and 10% Increase in Nurse Graduates

	Supply	Demand	Difference	%
+10% nurse graduates	115,499	125,736	-10,237	-8.9%
Baseline projection	113,277	125,736	-12,459	-11%

And increasing student enrollment is difficult due to faculty shortages

Registered Nurse Educator Supply-Demand under "Baseline" (Pre-Covid) and Early Exit Scenario

	Supply	Demand	Difference	%
Baseline projection	1,477	1,609	-132	-8.9%
Educators exit 5 years earlier	1,312	1,609	-297	-22.6%

Shortage of nurse educators more than doubles if educators exit workforce 5 years early
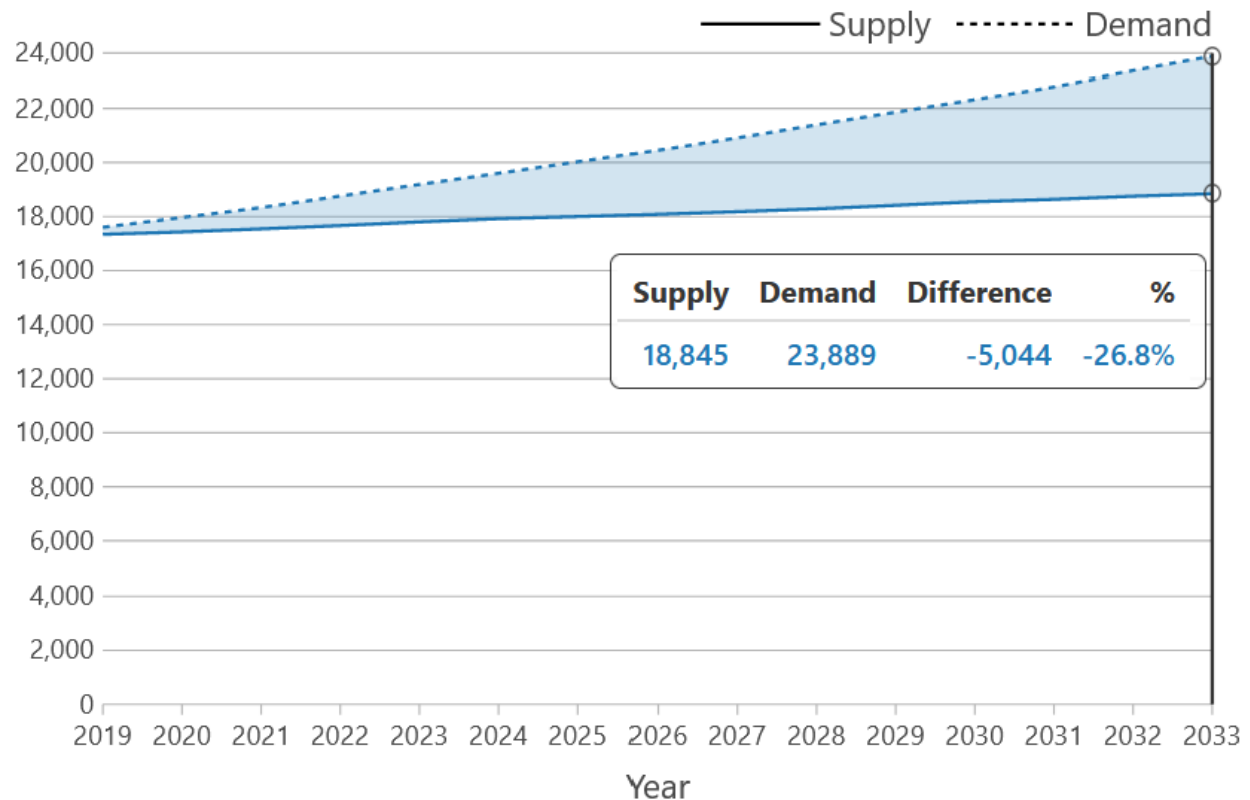
Because the nurse educator workforce is older and more likely to retire

Average Age of Registered Nurses by Employment Setting
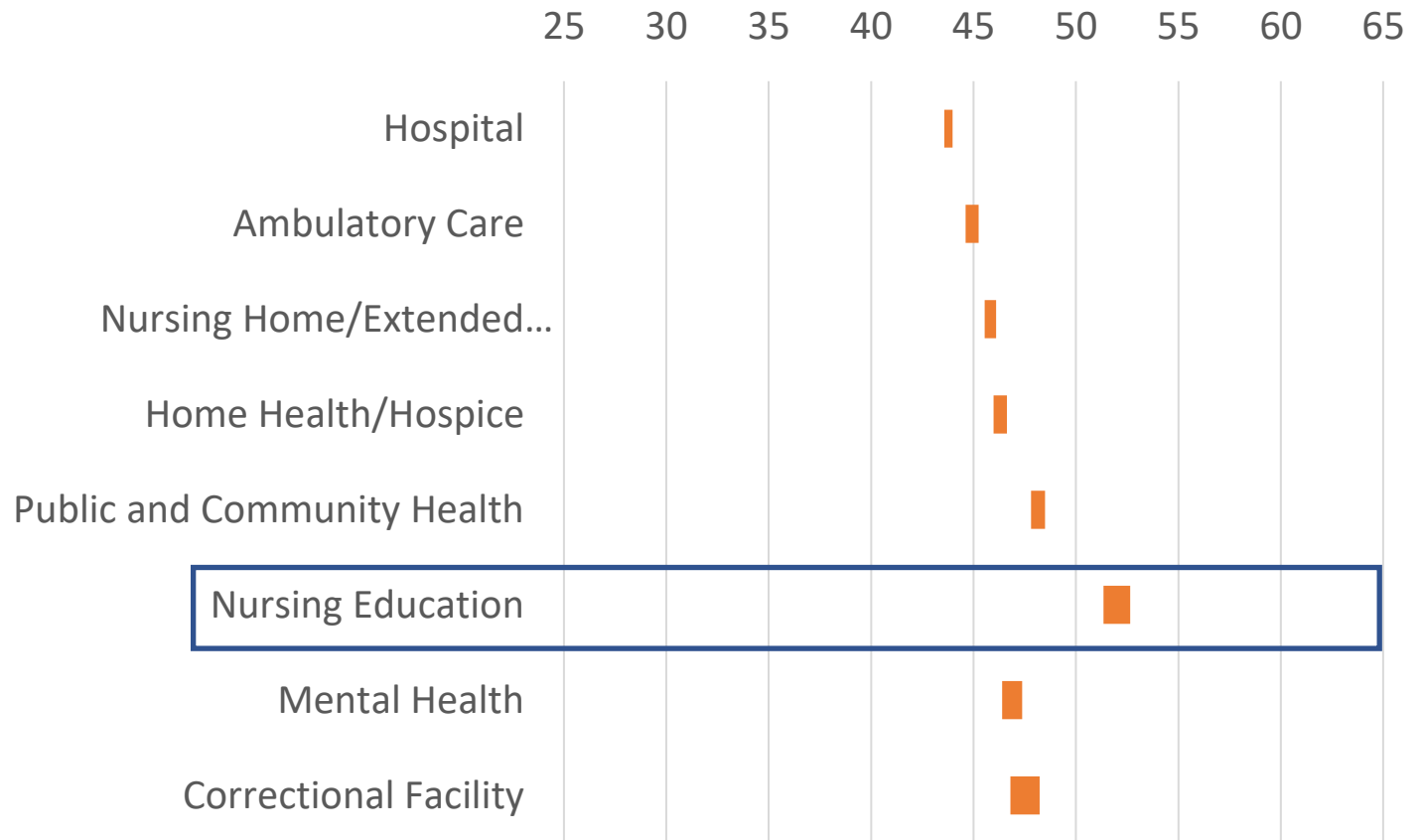
LPNs will face even greater shortages than RNs, relative to the size of their workforce

Licensed Practical Nurse Supply-Demand

Supply	Demand	Difference	%
18,845	23,889	-5,044	-26.8%

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Nursing homes, extended care, assisted living settings face largest LPN shortages

LPN Shortage and Surplus Estimates for 2033

Setting	# in Shortage or Surplus in 2033	% Shortage or Surplus in 2033
Total	-5,000	-27%
Hospital	-314	-31.7%
Nursing Home/Extended Care/Assisted Living	-3,510	-49%
Home Health/Hospice	-504	-14%
Correctional Facility	-9	-2.2%
Mental Health Hospital/Facility	-58	-9.4%
Ambulatory Care	-148	-6.7%

Note: Data from NC Nursecast, which includes NC Board of Nursing/Health Professions Data System, population data from NC Office of Budget and Analysis and Expert Input

NC Nursecast Graduate Diffusion Tool

- Displays "footprint" of NC's education program graduates from 2013-2016

- For each ADN, BSN, and LPN program, shows % of workforce retained in the state, in rural areas, and by employment setting, two years after graduation

- NC nursing programs have high in-state retention rates, and varying retention rates in rural areas

Nurse Education Programs in North Carolina	Retention Rate in NC	Retention in rural NC counties
Licensed Practical Nurse (LPNs) Programs	92%	33%
Associate Degree Nurse (ADN) Programs	92%	29%
Bachelor of Science in Nursing (BSN) Programs	86%	10%

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UNC System BSN Programs Have Varying Footprints

Institution	# of Grads 2013-2016	% Working in NC	% Working in Rural NC	Mean distance from program to practice (miles)
Appalachian State University	127	89%	15%	90
East Carolina University	848	88%	9%	71
Fayetteville State University	50	74%	26%	20
North Carolina A & T State University	118	88%	4%	35
North Carolina Central University	190	89%	7%	15
University of North Carolina Wilmington	314	85%	3%	76
University of North Carolina at Chapel Hill	497	80%	2%	20
University of North Carolina at Charlotte	333	88%	3%	35
University of North Carolina at Greensboro	321	93%	3%	31
University of North Carolina at Pembroke	104	77%	49%	32
Western Carolina University	250	84%	12%	68
Winston-Salem State University	386	93%	4%	27

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Graduate Diffusion Model Allows Users to Visualize and Compare Footprints
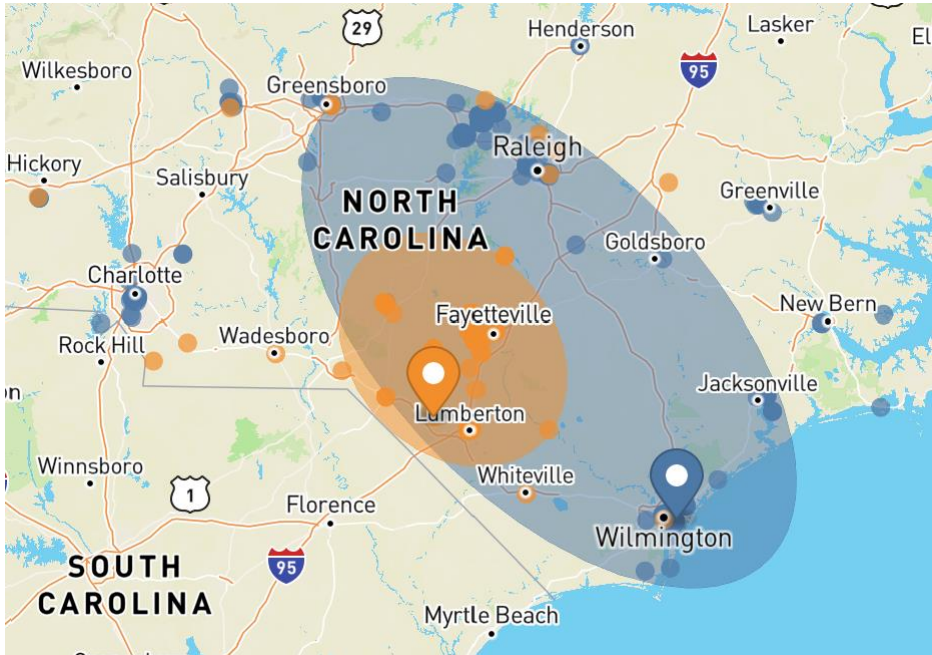
Institution	Program Type	#	# Hospital (%)	# Ambulatory (%)	# Home Health / Hospice (%)	# Rural (%)	Mean Distance in Miles	Percent Retention in NC
University of North Carolina Wilmington	RN-BSN	314	273 (87%)	4 (1.3%)	3 (0.96%)	8 (2.5%)	76	85%
University of North Carolina at Pembroke	RN-BSN	104	89 (86%)	2 (1.9%)	0 (0.0%)	51 (49%)	32	77%

LPN Programs in Community Colleges Play Critical Role In Meeting Local Needs

Community College LPN Programs in Southeast/Wilmington Medicaid Region

Institution	Program Type	#	# Hospital (%)	# Ambulatory (%)	# Home Health / Hospice (%)	# Rural (%)	Mean Distance in Miles	Percent Retention in NC
Bladen Community College	LPN	74	8 (11%)	4 (5.4%)	2 (2.7%)	50 (68%)	25	99%
Brunswick Community College	LPN	62	1 (1.6%)	7 (11%)	1 (1.6%)	2 (3.2%)	17	90%
Central Carolina Community College	LPN	128	8 (6.3%)	7 (5.5%)	9 (7.0%)	68 (53%)	23	93%
Cape Fear Community College	LPN	71	2 (2.8%)	10 (14%)	4 (5.6%)	1 (1.4%)	16	95%
Fayetteville Technical Community College	LPN	130	27 (21%)	6 (4.6%)	5 (3.8%)	21 (16%)	15	79%
Montgomery Community College	LPN	122	9 (7.4%)	4 (3.3%)	8 (6.6%)	68 (56%)	29	99%
Richmond Community College	LPN	46	4 (8.7%)	5 (11%)	1 (2.2%)	45 (98%)	17	91%
Robeson Community College	LPN	43	3 (7.0%)	2 (4.7%)	6 (14%)	35 (81%)	14	91%
Sampson Community College	LPN	63	3 (4.8%)	4 (6.3%)	6 (9.5%)	35 (56%)	30	100%
Sandhills Community College	LPN	23	2 (8.7%)	1 (4.3%)	0 (0.0%)	15 (65%)	23	90%
Southeastern Community College	LPN	71	7 (9.9%)	5 (7.0%)	2 (2.8%)	57 (80%)	24	95%

The work of this taskforce is very timely

- Lots of discussion about state policies to ameliorate nursing workforce shortages, including:

  - increasing number of nursing students
  - addressing faculty, preceptor and clinical site shortages
  - funding loan/scholarship programs
  - establishing Center for a Workforce for Health to *persist* at identifying and implementing solutions to address workforce shortages

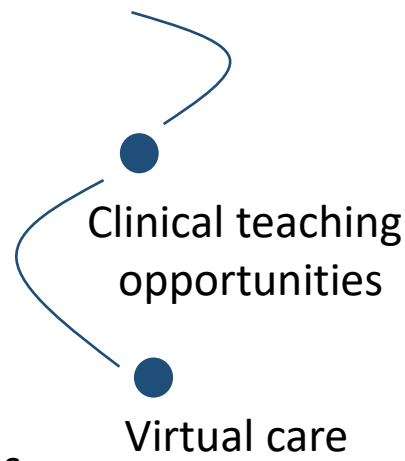- Individual health care organizations are also focused on addressing nursing shortages
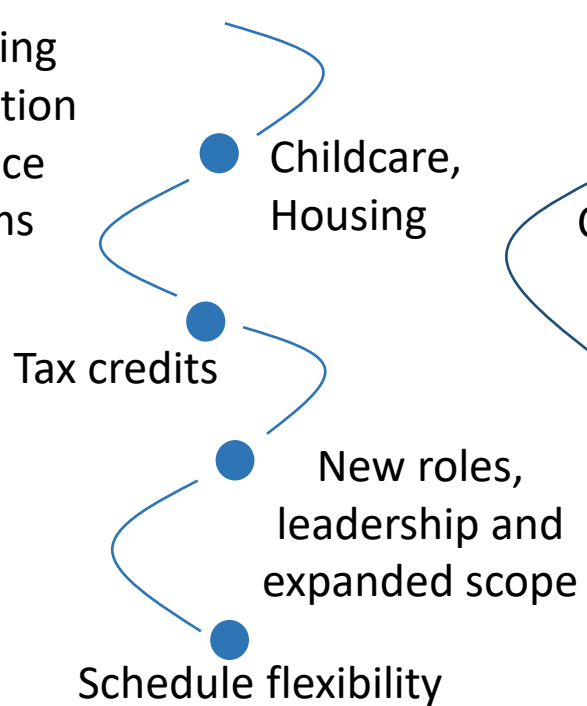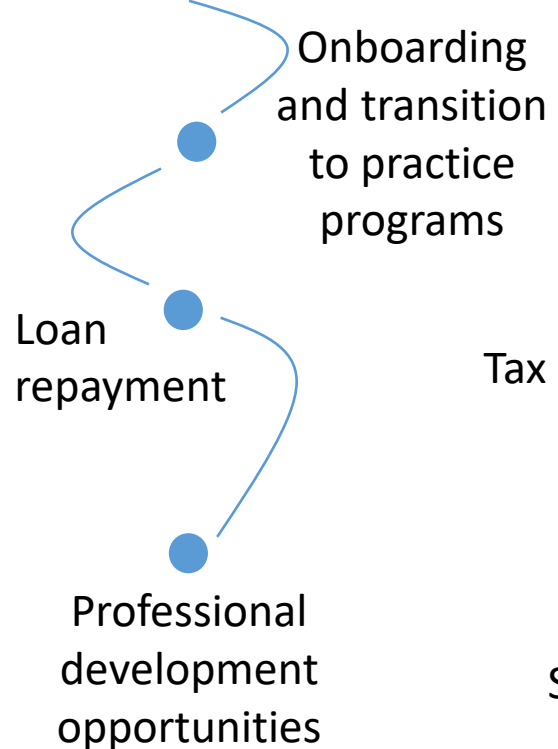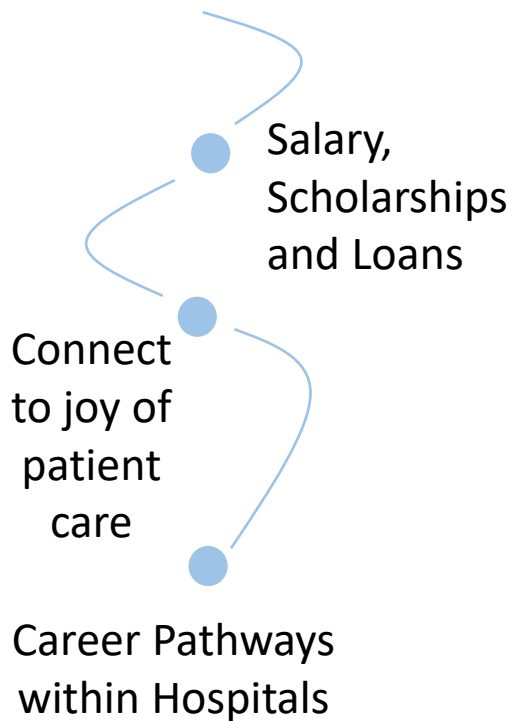
Retention throughout the Lifespan of a Career

Recruitment

Early Career

Mid-Career

Late Career & Retirement

Salary, Scholarships and Loans

Connect to joy of patient care

Career Pathways within Hospitals

Onboarding and transition to practice programs

Loan repayment

Professional development opportunities

Childcare, Housing

Tax credits

New roles, leadership and expanded scope

Schedule flexibility

Clinical teaching opportunities

Virtual care

Enhancing Workplace Environment is Key to Retention

- Reduce workload

- Ease charting burden

- Reconnect to purpose and mission of work

- Eliminate unnecessary care/low value care

- Seek regular, "bottom-up" input on strategies to improve well-being

- Engage in shared governance to reimagine roles, workflows, and co-design care delivery models

- Develop team-based models of nursing care

- Address workplace violence

Workplace Violence Is Rising

Health care workers make up 14% of total US workforce but they experience 75% of all nonfatal, intentional, workplace injuries[1]

Nursing assistants experience the most intentional, nonfatal, workplace injuries

Black health care support workers experienced injury rates three times higher than White workers[3]

Inpatient workers experienced more WPV than outpatient healthcare workers[4]

Settings in which WPV most occurs: psychiatric departments, emergency services, and geriatric units[5]

Do we really know rate of WPV?

- ***Prior to the pandemic***, Bureau of Labor Statistics (BLS) reported a 60% increase in workplace violence from 2011 to 2018

- ***Since the pandemic began***: BLS reports that injuries and illnesses have *at least doubled*

- BLS data likely underestimate rate of workplace violence because:
  - to be counted, WPV events must result in injury that required the worker to miss one or more days
  - evidence suggests that employees underreport WPV to employers[1], which may have only worsened since the beginning of the pandemic[2]
  - in one hospital, half of the staff indicated that they experienced WPV but did not report it to hospital management[3]

More findings here:

Workplace Violence in Healthcare Settings

Carolina **HEALTH WORKFORCE** Research Center

Brianna Lombardi, Emily McCartha, Connor Sullivan, Erin Fraher
Rapid Response August 2022

◆ **I. Literature Review**

  Workplace violence (WPV) is a documented experience that affects those that work within healthcare settings. WPV is described by the Occupational Safety and Health Administration (OSHA) a "any act or threat of physical violence, harassment, intimidation, or other threatening disruptive

https://www.shepscenter.unc.edu/download/25102/

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